

**Abstract****Optical Component With Signal Amplification**

- 5 An optical component comprising a plurality of optical input ports and a plurality of optical output ports. A polymer amplifying medium is provided within the component which is pumped by a pump source for exciting the polymer amplifying medium. Signals passing through
- 10 the optical component are routed through the polymer amplifying medium. This provides amplification using a polymer amplifying medium which is integrated into the structure of the component. This amplification can then compensate for the loss resulting from the other
- 15 functions of the component.